



Town of Haddam, Connecticut

2021 Annual Report

**General Permit for the Discharge of Stormwater
from Small Municipal Separate Storm Sewer Systems**

**Permit Number GSM000119
New MS4 Permittee**

MS4 General Permit
 Town of Haddam 2021 Annual Report
 Permit Number GSM 000119
 January 01, 2021 - December 31, 2021

Primary MS4 Contact: Wade M. Thomas, Nathan L. Jacobson & Associates, Inc., 860.526.9591, wthomas@nlja.com

This report documents Town of Haddam’s efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 01, 2021 to December 31, 2021.

Bill Warner replaced Liz Glidden, Town Planner in late 2018.

Robert McGarry, First Selectman replaced Lizz Milardo, First Selectwoman in November 2019

Part I: Summary of Minimum Control Measure Activities

1. Public Education and Outreach (Section 6 (a)(1) / page 19)

1.1 BMP Summary

BMP	Activities in Current Reporting Period	Sources Used (if applicable)	Method of Distribution	Audience (and number of people reached)	Measurable Goal	Person Responsible, Department	Additional Details
1-1 Implement public education and outreach (06/30/19)	A Stormwater Management web page was developed on the town website. The page contains links to the CT Nonpoint Education for Municipal Officials (NEMO) website, the Center for Watershed Protection (CWP) website and the US EPA Site for Stormwater Best	NEMO and Center for Watershed Protection	Town Website	100s	Public education and outreach	JoAnn Ricardelli, First Selectwoman Administrative Assistant	Additional Public Education and Outreach resources will be posted on the website in the future at: https://www.haddam.org/public-works-department/pages/storm-management

	Management Practices website. The websites also have links to additional stormwater education resources.						
1-2 Address education/ outreach for pollutants of concern	2017 through 2021 – None Pollutants of concern will be identified based upon 2022 sampling.				None	Nathan L. Jacobson & Associates, Inc., Town Engineer	
1-3 Salmon River Watershed Partnership (SRWP) Activities	Pat Young, SRWP Coordinator, represents the SRWP on statewide issues relating to water quality and non-point source pollution and related information in the 10 town watershed.			100s to 1,000s		Pat Young, SRWP Coordinator	
	August 2017 September 2018 September 2019 2020 - None due to COVID-19. September 2021 Haddam Neck Fair - Public Event A booth was set up for the three-day event with displays of SRWP activities and a sign-up sheet for water quality monitoring with a focus on impacts of water quality on macro invertebrates. A new display showing all water quality monitoring sites and a take home brochure including steps that landowners can take to protect water quality were dispersed		In person and take-home brochures	100s	Public education and volunteering	Pat Young, SRWP Coordinator	

	<p>June 2018 Haddam Library- Agricultural Day A booth was set up with an EnviroScape three- dimensional stormwater education module. A sign-up sheet for water quality monitoring was available with a focus on impacts of water quality on macro invertebrates.</p>			50+		Pat Young, SRWP Coordinator	
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1.2 Describe any Public Education and Outreach activities planned for the next year, if applicable.

The SRWP was formed in 2007 and has been conducting public education and outreach activities since then. SRWP public education and outreach activities for 2020 were severely curtailed due to the COVID-19 pandemic. It is anticipated that the SRWP will continue to conduct public education and outreach activities in late 2021 if pandemic conditions lessen.

2. Public Involvement/Participation (Section 6(a)(2) / page 21)

2.1 BMP Summary

BMP	Status (Complete, Ongoing, In Progress, or Not started)	Activities in current reporting period	Measurable Goal	Person Responsible, Department	Date completed or projected completion date (include the start date for anything that is 'in progress')	Location Posted	Additional details
2-1 Final Stormwater Management Plan publicly available	Complete	2017 The Stormwater Management Plan was posted on the town website.	Compliance	JoAnn Ricardelli, First Selectwoman Administrative Assistant		https://www.haddam.org/public-works-department/pages/storm-management	
2-2 Comply with public notice requirements for Annual Reports (annually by 02/15)	Complete	2018 The Draft 2017 MS4 Annual Report was posted on the town website.	Substantial Compliance	JoAnn Ricardelli, First Selectwoman Administrative Assistant	February 27, 2018	https://www.haddam.org/public-works-department/pages/storm-management	
	Complete	2019 The Draft 2018 MS4 Annual Report was posted on the town website.	Substantial Compliance	JoAnn Ricardelli, First Selectwoman Administrative Assistant	March 07, 2019	https://www.haddam.org/public-works-department/pages/storm-management	
	Complete	2020 The Draft 2019 MS4 Annual Report was posted on the town website.	Substantial Compliance	JoAnn Ricardelli, First Selectman Administrative Assistant	May 01, 2020	https://www.haddam.org/public-works-department/pages/storm-management	
	Complete	2021 The Draft 2020 MS4 Annual Report was posted on the town website.	Substantial Compliance	JoAnn Ricardelli, First Selectman Administrative Assistant	February 23, 2021	https://www.haddam.org/public-works-department/pages/storm-management	

	Complete	2022 The Draft 2021 MS4 Annual Report was posted on the town website.	Substantial Compliance	JoAnn Ricardelli, First Selectman Administrative Assistant	March 30, 2022	https://www.haddam.org/public-works-department/pages/storm-management	Comments are to be addressed to: wthomas@njia.com
2-3 Connecticut River Conservancy Source to Sea Cleanup Connecticut River Cleanup	Complete	2017 Source to Sea/CT DEEP Adopt A Park Invasive Plant Cleanup/Litter Pickup at Haddam Meadows State Park	Attendance by volunteers	Cheryl Czuba, Coordinator	September 23, 2017	https://www.ctriver.org/our-work/source-to-sea-cleanup	The 21 st annual Source to Sea Cleanup is conducted on one day.
	Comple	2018 Source to Sea/CT DEEP Adopt A Park Invasive Plant Cleanup/Litter Pickup at Haddam Meadows State Park	Attendance by 23 volunteers	Cheryl Czuba, Coordinator	September 29, 2018	https://www.ctriver.org/our-work/source-to-sea-cleanup	The 22 nd annual Source to Sea Cleanup was conducted on one day.
	Complete	2019 Source to Sea/CT DEEP Adopt A Park Invasive Plant Cleanup/Litter Pickup at Haddam Meadows State Park	Attendance by 27 volunteers	Cheryl Czuba, Coordinator	September 27-28 2019	https://www.ctriver.org/our-work/source-to-sea-cleanup	The 23 rd annual Source to Sea cleanup was held over two days.
	Complete	2020 Source to Sea/CT DEEP Adopt A Park Invasive Plant Cleanup/Litter Pickup at Haddam Meadows State Park	Attendance by many volunteers	Cheryl Czuba, Coordinator	September 2020	https://www.ctriver.org/our-work/source-to-sea-cleanup	The 24 th annual Source to Sea Cleanup was held over the entire month.

	Complete	2021 Source to Sea/CT DEEP Adopt A Park Invasive Plant Cleanup/Litter Pickup at Haddam Meadows State Park	Attendance by 15 volunteers who donated 40 hours of volunteer time. Invasive Plant Removal 15 pounds of trash collected.	Cheryl Czuba, Coordinator	September 25, 2021 9 A.M. - 12:00 P.M.	https://www.ctriver.org/our-work/source-to-sea-cleanup	The 25 th annual Source to Sea Cleanup was held over the entire month.
	Scheduled	2022 Source to Sea/CT DEEP Adopt A Park Invasive Plant Cleanup/Litter Pickup at Haddam Meadows State Park	Attendance by many volunteers	Cheryl Czuba, Coordinator	September 23-24, 2022	https://www.ctriver.org/our-work/source-to-sea-cleanup	The 26 th annual Source to Sea Cleanup was held over the entire month.
2-4 SRWP Field Monitoring and Volunteer Training	Ongoing	2017-2021 19 sites were monitored for temperature, pH, dissolved oxygen, conductivity, total dissolved solids and salinity.	Participation by 12 local citizens	Pat Young, SRWP Coordinator	2017 June - August 2018 June - August	https://www.samonriverct.org	

2.2 Describe any Public Involvement/Participation activities planned for the next year, if applicable.

The SRWP was formed in 2007 and has been conducting public involvement/participation since then. It is anticipated that the SRWP will continue to conduct public involvement/participation activities in 2022.

It is anticipated that Haddam residents will take part in the 26th Annual Connecticut River Conservancy Source to Sea Cleanup of the Connecticut River scheduled for September 23-24, 2022.

3. Illicit Discharge Detection and Elimination (Section 6(a)(3) and Appendix B / page 22)

3.1 BMP Summary

BMP	Status (Complete, Ongoing, In Progress, or Not started)	Activities in current reporting period	Measurable Goal	Person Responsible, Department	Date completed or projected completion date (include the start date for anything that is 'in progress')	Additional details
3-1 Develop written IDDE program (Due 06/30/19)	In progress	2017 through 2021 - None	Develop the written IDDE program after enactment of the IDDE Ordinance.	Board of Selectmen and Nathan L. Jacobson & Associates, Inc., Town Engineer	Anticipate completing after the IDDE Ordinance has been enacted in 2022.	
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas (Due 07/01/20)	Complete	Completed in 2017	MS4 Stormwater Outfall GIS Map	Nathan L. Jacobson & Associates, Inc., Town Engineer	Completed by the deadline of July 01, 2020.	
3-3 Implement citizen reporting program (Ongoing)	In Progress	2017 through 2021 - None	None	Board of Selectmen and Nathan L. Jacobson & Associates, Inc., Town Engineer	Anticipate completing concurrently with the development of the IDDE Program after enactment of the IDDE Ordinance at a Town Meeting.	
3-4 Establish legal authority to prohibit illicit discharges (Due 06/30/20)	In Progress	The CT DEEP IDDE Ordinance template was provided to the Town Attorney.	The CT DEEP template was provided to the Town Attorney	Board of Selectmen and Nathan L. Jacobson & Associates, Inc., Town Engineer	Anticipate completing by December 31, 2022.	
3-5 Develop record keeping system for IDDE tracking (Due 06/30/19)	In Progress	2017 through 2021 - None	None	Nathan L. Jacobson & Associates,	Anticipate completing concurrently with the development of the IDDE Program.	

				Inc., Town Engineer		
3-6 Address IDDE in areas with pollutants of concern	In Progress	2017 through 2021 - None	None	Board of Selectmen and Nathan L. Jacobson & Associates, Inc., Town Engineer	Anticipate completing after the IDDE Ordinance has been enacted.	

3.2 Describe any IDDE activities planned for the next year, if applicable.

Enact the IDDE Ordinance and IDDE Citation Hearing Procedure.

The written program will be posted to the Dept of Public works webpage and a link listed in each Annual Report will update the written IDDE program as needed throughout the permit term.

The DPW will maintain the master IDDE tracking spreadsheet and ensure all employees involved in IDDE program understand the illicit discharge logging process.

3.3 Provide a record of all citizen reports of suspected illicit discharges and other illicit discharges occurring during the reporting period and SSOs occurring July 2017 through end of reporting period using the following table. Illicit discharges are any unpermitted discharge to waters of the state that do not consist entirely of stormwater or uncontaminated groundwater except those discharges identified in Section 3(a)(2) of the MS4 general permit when such non-stormwater discharges are not significant contributors of pollution to a discharge from an identified MS4.

Location (Lat long/ street crossing /address and receiving water)	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)
Not Applicable	2017				None Required - Scott Martinson, R.S., M.S., and Chief Sanitarian of the Connecticut River are Health District (CRAHD) reported there were no reports of illicit discharge	
Not Applicable	2018				None Required - Scott Martinson, R.S., M.S., and Chief Sanitarian of the Connecticut River are Health District (CRAHD) reported there were no reports of illicit discharge	
Not Applicable	2019				None Required - Scott Martinson, R.S., M.S., and Chief Sanitarian of the Connecticut River are	

					Health District (CRAHD) reported there were no reports of illicit discharge	
Not Applicable	2020				None Required - Scott Martinson, R.S., M.S., and Chief Sanitarian of the Connecticut River are Health District (CRAHD) reported there were no reports of illicit discharge	
Not Applicable	2021				None Required - Scott Martinson, R.S., M.S., and Chief Sanitarian of the Connecticut River are Health District (CRAHD) reported there were no reports of illicit discharge	

3.4 Provide a summary of actions taken to address septic failures using the table below.

Method used to track illicit discharge reports	Location and nature of structure with failing septic systems	Actions taken to respond to and address the failures	Impacted waterbody or watershed, if known	Dept. / Person responsible
2017 Scott Martinson, M.S., R.S. and Chief Sanitarian of the Connecticut River Area Health District (CRAHD) was contacted. While several subsurface wastewater disposal systems were repaired, none of the repairs were for illicit discharges.		None Required	Not Applicable	Scott Martinson, M.S., R.S. and Chief Sanitarian of the Connecticut River Area Health District (CRAHD)
2018 Scott Martinson, M.S., R.S. and Chief Sanitarian of the Connecticut River Area Health District (CRAHD) was contacted. While several subsurface wastewater disposal systems were repaired, none of the repairs were for illicit discharges.		None Required	Not Applicable	Scott Martinson, M.S., R.S. and Chief Sanitarian of the Connecticut River Area Health District (CRAHD)
2019 Scott Martinson, M.S., R.S. and Chief Sanitarian of the		None Required	Not Applicable	Scott Martinson, M.S., R.S. and Chief Sanitarian of the

<p>Connecticut River Area Health District (CRAHD) was contacted. While several subsurface wastewater disposal systems were repaired, none of the repairs were for illicit discharges.</p>				<p>Connecticut River Area Health District (CRAHD)</p>
<p>2020 Scott Martinson, M.S., R.S. and Chief Sanitarian of the Connecticut River Area Health District (CRAHD) was contacted. While several subsurface wastewater disposal systems were repaired, none of the repairs were for illicit discharges.</p>	<p>68 Quarry Hill Road 911 Saybrook Road 1514 Saybrook Road 236 Plains Road 18 Pettipaug Road 394 Brainard Hill Road 340 Hubbard Road 138 Pokorny Road 86 Williamsburg Road 49 Camp Bethel Road 220 Plains Road 133 Grapevine Road 239 Moodus Road 424 Brainard Hill Road 472 Candlewood Hill Road 90 Old Ponsett Road 846 Killingworth Turnpike 42 Boulder Dell Road 136 McTigh Road 61 Old Ponsett Road 376 Turkey Hill Road 316 Candlewood Hill Road 255 Saybrook Road 384 Beaver Meadow Road 63 Brainard Hill Road 71 West Shore Drive 111 Filley Road 304 Plains Road 15 Rock Landing Road 21 High Meadow Place 40 Landing Road 2 Oak Ridge Place 24 Thayer Road 694 Little City Road 380 Pokorny Road</p>	<p>Septic Tank Repair Septic Tank and Leaching System Repairs Septic Tank and Leaching System Repairs Septic Tank and Leaching System Repairs Septic Tank and Leaching System Repairs Septic Tank Repair Septic Tank and Leaching System Repairs Septic Tank and Leaching System Repairs Leaching System Repair Septic Tank and Leaching System Repairs Septic Tank Repair Septic Tank and Leaching System Repairs Septic Tank and Leaching System Repairs Leaching System Repair Septic Tank and Leaching System Repairs Septic Tank and Leaching System Repairs Leaching System Repair Septic Tank and Leaching System Repairs Septic Tank Repair Septic Tank and Distribution Box Repairs Septic Tank and Leaching System Repairs Septic Tank and Leaching System Repairs Septic Tank and Leaching System Repairs Septic Tank and Leaching System Repairs Septic Tank Repair Septic Tank and Leaching System Repairs Septic Tank Repair Septic Tank and Leaching System Repairs Septic Tank and Leaching System Repairs Septic Tank Repair Septic Tank and Leaching System Repairs Septic Tank Repair Septic Tank and Leaching System Repairs</p>	<p>4709-08-1 4000-00-6+R35 4000-49-1 4015-04-1 4700-00-4-R10 4014-05-2-L2 4015-01-1 4014-03-2-R1 4014-04-1 4000-00-6+R39 4015-04-1 4014-05-2-R3 4000-45-1 4014-05-2-L2 4014-05-2-R3 4000-46-1 4014-04-1 4014-10-2-R3 4014-02-1 4000-46-1 4015-03-1 4014-05-2-L1 4014-10-2-R3 4015-02-1 4014-11-1 5105-02-1-L2 4015-00-2-R1 4000-51-2-R1 4709-00-3-R1 4000-47-1 4000-00-6+R32 4000-00-6+R35 4014-10-2-R3 4014-06-1 4014-02-1</p>	<p>Scott Martinson, M.S., R.S. and Chief Sanitarian of the Connecticut River Area Health District (CRAHD)</p>
<p>2021 - Scott Martinson, M.S., R.S. and Chief</p>	<p>69 Laurel Grove Road 3 Mario Drive</p>	<p>D-Box repairs</p>	<p>4014-05-1 4014-01-1</p>	

Sanitarian of the Connecticut River Area Health District (CRAHD) was contacted. While several subsurface wastewater disposal systems were repaired, none of the repairs were for illicit discharges.	129 Meetinghouse Lane 66 Dickinson Road 308 Killingworth Road 321 Rock Landing Road 329 Killingworth Road 178 Ponsett Road 255 Rock Landing Road 77 Maple Avenue 108 Parmelle Road 65 Walkley Hill Road 874 Killingworth Road 48 Killingworth Road 304 Hubbard Road 103 Silver Spring Drive 78 Bridge Road 75 Bamforth Road 84 High Street 57 Ruddy Ferry Road 60 Quarry Hill Road 37 Clark Road 26 Geromin Drive 411 Turkey Hill Road 29 Plains Road 33 Little Fawn Trail 29 White Birch Trail 166 Skunk Misery Road 15 Laurel Grove Road	Septic Tank Inlet Pipe Repairs Septic Tank and Leaching System Repairs Septic Tank Repairs WTW Septic Tank and Leaching System Repairs Septic Tank and Leaching System Repairs Septic Tank and Leaching System Repairs Septic Tank Repairs Septic Tank and Leaching System Repairs WTW Septic Tank and Leaching System Repairs Septic Tank Repairs Septic Tank Repairs Leaching System Repairs Septic Tank Repairs Pipe Repairs Septic Tank and Leaching System Repairs Septic Tank Repairs Septic Tank Repairs Septic Tank Repairs Septic Tank and Leaching System Repairs Septic Tank Repairs Septic Tank and Leaching System Repairs Septic Tank Repairs Septic Tank and Leaching System Repairs WTW Septic Tank and Leaching System Repairs	4000-47-1 4015-03-1 4014-03-2-L1 4000-00-6+34 4014-03-2-L1 4014-04-1 4000-00-6+34 4014-03-2-L1 4000-47-1 4000-00-6+R32 4015-02-1 4014-03-2-R2 4015-01-1 4014-09-1 4000-00-6+R39 4015-00-2-R1 4014-03-2-R2 4000-00-6+R37 4000-00-6+R35 4000-46-1 4014-07-1 4015-03-1 4015-00-2-R3 5106-08-1-L2 5105-02-1-L2 5106-10-1 4014-05-1	
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3.5 Briefly describe the method and effectiveness of said method used to track illicit discharge reports.

Will be described after the method and effectiveness of IDDE tracking is developed in 2022.

3.6 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	440
Estimated or actual number of interconnections	TBD
Outfall mapping complete	95%
Interconnection mapping complete	50%

System-wide mapping complete (detailed MS4 infrastructure)	40%
Outfall assessment and priority ranking	10%
Dry weather screening of all High and Low priority outfalls complete	5%
Catchment investigations complete	5%
Estimated percentage of MS4 catchment area investigated	5%

3.7 Briefly describe the IDDE training for employees involved in carrying out IDDE tasks including what type of training is provided and how often it is given (minimum once per year).

Department of Public Works employees will also be provided with a copy of the manual entitled *Illicit Discharge Detection and Elimination Manual, A Handbook for Municipalities*, dated January 2003, published by the New England Interstate Water Pollution Control Commission.

4. Construction Site Runoff Control (Section 6(a)(4) / page 25)

4.1 BMP Summary

BMP	Status (Complete, Ongoing, In Progress, or Not started)	Activities in current reporting period	Measurable Goal	Person Responsible, Department	Date completed or projected completion date (include the start date for anything that is 'in progress')	Additional details
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit (Due 06/30/20)	In Progress	2020 through 2021 - None	The applicable sections of Minimum Control Measure No. 4 – Construction Site Runoff Control were provided to Liz Glidden, Town Planner in 2018 for incorporation into the land use regulations.	William Warner, Town Planner		Representatives from Halloran & Sage LLP have indicated that a Regional Planning Agency is in the process of developing model land use regulations to meet the requirements of the 2017 MS4 General Stormwater Permit.
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval (Ongoing)	In Place	Continuing	Continued Implementation	William Warner, Town Planner		
4-3 Review site plans for stormwater quality concerns (Ongoing)	In Place	Continuing	Continued Implementation	Nathan L. Jacobson & Associates, Inc., Town Engineer		
4-4 Conduct site inspections (Ongoing)	In Place	Continuing	Continued Implementation	Nathan L. Jacobson & Associates, Inc., Town Engineer		
4-5 Implement procedure to allow public comment on site development (Ongoing)	In Place	Continuing	Continued Implementation	William Warner, Town Planner		

4-6 Implement procedure to notify developers about DEEP construction stormwater permit (Ongoing)	In Place	The notification that the CT DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities is provided by land use review letters prepared by Nathan L. Jacobson & Associates, Inc., if applicable.	Continued Implementation	Nathan L. Jacobson & Associates, Inc., Town Engineer		
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4.2 Describe any Construction Site Runoff Control activities planned for the next year, if applicable.

Nathan L. Jacobson & Associates, Inc., Town Engineer, requires that developers integrate measures contained in the 2002 Connecticut Soil Erosion & Sediment Control Guidelines into land development project designs.

Nathan L. Jacobson & Associates, Inc. encourages developer’s engineers to utilize BMPs contained in the 2004 Connecticut Stormwater Quality Manual whenever applicable.

Nathan L. Jacobson & Associates, Inc. will recommend that the developer register for the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities in land use application engineering review letters when applicable.

5. Post-Construction Stormwater Management (Section 6(a)(5) / page 27)

5.1 BMP Summary

BMP	Status (Complete, Ongoing, In Progress, or Not started)	Activities in current reporting period	Measurable Goal	Person Responsible, Department	Date completed or projected completion date (include the start date for anything that is 'in progress')	Additional details
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning (Due 07/01/22)	Complete	2017 through 2021 - None	The applicable sections of Minimum Control Measures No. 5 - Post-Construction Runoff Control were provided to Liz Glidden, Town Planner in 2018 for incorporation into the land use regulations.	Bill Warner, Town Planner	July 01, 2017	Representatives from Halloran & Sage LLP have indicated that a Regional Planning Agency is in the process of developing model land use regulations to meet the requirements of the 2017 MS4 General Stormwater Permit.
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects (Due 07/01/22)	Ongoing	Continue to incorporate LID/runoff reduction for new development projects and redevelopment projects	While not specifically in the current land use regulations, LID/runoff reduction measures are requested during land use application reviews by the Town Engineer	Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2017	

5-3 Identify retention and detention ponds in priority areas (Due 07/01/20)	In Progress	2017 through 2020 – None Detention Ponds are in the process of being inventoried.	None	Nathan L. Jacobson & Associates, Inc., Town Engineer		
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures (Ongoing)	In Progress	Continuing	None	Christopher Corsa, Assistant Director, Department of Public Works		
5-5 DCIA mapping (Due 07/01/20)	Complete	2017 - None 2018 - Completed	DCIA reduction measures were implemented in a road reconstruction project	Nathan L. Jacobson & Associates, Inc., Town Engineer	2018	
5-6 Address post-construction issues in areas with pollutants of concern	In Progress	To Be Developed	None	Nathan L. Jacobson & Associates, Inc., Town Engineer		

5.2 Describe any Post-Construction Stormwater Management activities planned for the next year, if applicable.

2017 through 2018 - None
2019 - Post-Construction Stormwater Management Facility Operation & Maintenance Plan Manual was developed.
2020 through 2021 - None
2022 - Procedures outlined in the Post-Construction Stormwater Management Facility Operation & Maintenance Plan Manual will begin to be implemented.

5.3 Post-Construction Stormwater Management reporting metrics

For details on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/post-construction.htm>. Scroll down to the DCIA section.

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	7.57 acres
DCIA disconnected (redevelopment plus retrofits)	2012 through 2016 - To Be Determined 2017 - Bartman Road Reconstruction DCIA Disconnection - 0.462 Acre (20,130 SF) 2018 through 2021 - 0.000 Acre Total - DCIA Disconnection - 0.462 Acre (20,130 SF)
Retrofit projects completed	1
DCIA disconnected	2012 to 2016 - To Be Determined 2017 - Bartman Road Reconstruction DCIA Disconnection - 0.462 Acre (20,130 SF) 2018 – through 2021 0 Acre Total - DCIA Disconnection - 0.462 Acre (20,130 SF)
Estimated cost of retrofits	2012 to 2016 - To Be Determined 2017 - \$22,000 2018 through 2021 - \$0 Total - \$22,000
Detention or retention ponds identified	0 this year / 8 total

5.4 Briefly describe the method to be used to determine baseline DCIA.

Based on information contained in the Factsheet: *Town of Haddam Water Quality and Stormwater Summary*, prepared by the CT DEEP, 1,041.70 acres of the town has an impervious area exceeding 12% which is approximately 3.52% of the town. 389.09 acres have an impervious cover of ranging from 12% to 25%, 494.33 acres have an impervious cover ranging from 26% to 50%, 122.13 acres have an impervious cover ranging from 51% to 75% and 36.15 acres have an impervious cover ranging from 76% to 100%.

Based on information contained in the MS4 mapping tab of Connecticut Environmental Conditions Online The impervious surface area consists of 207.10 acres of buildings, 442.50 acres of roads and 474.09 acres of other impervious surfaces for a total impervious surface area of 1,123.69 acres. Of the total of 442.50 acres of road impervious surface area, 287.32 acres are Town roads and 155.18 acres are State roads and. The State roads constitute approximately 35.1 percent of the total road impervious area.

The DCIA Mapping was conducted in substantial accordance with the methodologies presented in the October 25, 2017 UConn CLEAR Webinar entitled *CT MS4 Mapping Details, Clarifications and Tools*, the October 19, 2018 UConn CLEAR Workshop entitled *CT MS4 Mapping Workshop* as well as information contained in the EPA reference entitled *Estimating Change in Impervious Area (IA) and Directly Connected Impervious Area (DCIA) for Massachusetts Small MS4 Permit utilizing Sutherland Equations*.

The DCIA computations were prepared utilizing Connecticut Environmental Conditions Online MS4 base mapping prepared by UConn CLEAR.

Impaired waters were determined from the report entitled *2016 Integrated Water Quality Report*, dated April 2017, and the *2018 Integrated Water Quality Report*, dated August 01, 2019 prepared by the State of Connecticut Department of Energy and Environmental Protection.

The method to determine the 2012 baseline DCIA was to first compile the CT DEEP drainage basin characteristics in a Microsoft Excel spreadsheet. Information on the Connecticut Environmental Conditions Online MS4 Mapping was used to determine the impervious area breakdown as Buildings, Roads and Other. For CT DEEP drainage basins that fell in two or more municipalities the advanced mapping tab of Connecticut Environmental Conditions Online was used to delineate and determine the applicable town CT DEEP basin area. It was assumed that the entire drainage basin characteristics were directly proportional to the applicable town CT DEEP drainage basin area.

In that ConnDOT has a MS4 Stormwater Program which applies to state owned roads and facilities which the town has no control over, it was decided that the impervious state road area would be determined and deducted from the total impervious road area for each CT DEEP drainage basin as the impervious road areas associated with state highways and facilities constitutes a considerable portion of the total town impervious road area.

The ConnDOT state highway, parking lot and facility impervious road areas were then determined for each CT DEEP drainage basin.

The ConnDOT state highway, parking lot and facility impervious road areas were then deducted from the total town impervious road area to determine a town owned impervious road area for each CT DEEP drainage basin.

Subsequent to the above deduction, the total impervious area in acres and percentage was then recomputed for each CT DEEP drainage basin.

The DCIA formula for each of four development types was then utilized to compute the DCIA. The impervious area in acres was assigned to each of the four Sutherland equations which were modified for the northeastern United State. The Sutherland equation to be utilized was determined using the following methodology:

For impervious percentage less than 6%:

100% of the impervious area was assigned to the slight connectivity Sutherland Equation where $DCIA\% = 0.01 \cdot (IA\%)^{2.0}$

For an impervious area between 6% and 12 %:

50% of the area was assigned to the partial connectivity Sutherland Equation where $DCIA\% = 0.04 \cdot (IA\%)^{1.7}$
and 50% was assigned to the average connectivity Sutherland Equation where $DCIA\% = 0.10 \cdot (IA\%)^{1.5}$

For an impervious area between 12% and 18 %:

50% of the area was assigned to the average connectivity Sutherland Equation where $DCIA\% = 0.10 \cdot (IA\%)^{1.5}$
and 50% was assigned to the high connectivity Sutherland Equation where $DCIA\% = 0.40 \cdot (IA\%)^{1.2}$

For an impervious area of greater than 18 %:

100% of the area was assigned to the high connectivity Sutherland Equation where $DCIA\% = 0.40 \cdot (IA\%)^{1.2}$

The DCIA for each CT DEEP drainage basin was then summed to determine the entire town DCIA.

Subsequent to completion of 2012 Baseline DCIA computations, UConn CLEAR Mapping available on Connecticut Environmental Conditions Online (CT ECO) was revised to separate road impervious area into State Road Impervious Area (Acres) and Town Road Impervious Area (Acres).

The original 2012 Baseline DCIA computations were revised utilizing the UConn CLEAR State Road Impervious Area (Acres) and Town Road Impervious Area (Acres). No major 2012 Baseline DCIA computation discrepancies were noted.

Land use files will be reviewed to determine disconnection of DCIA since July 01, 2012 for utilization in reaching the CT DEEP goal of 2% disconnection of DCIA by June 30, 2022.

6. Pollution Prevention/Good Housekeeping (Section 6(a)(6) / page 31)

6.1 BMP Summary

BMP	Status (Complete, Ongoing, In Progress, or Not started)	Activities in current reporting period	Measurable Goal	Person Responsible, Department	Date completed or projected completion date (include the start date for anything that is 'in progress')	Additional details
6-1 Develop and implement formal employee training program (Ongoing)	In Progress	2017 through 2021 - None	Not Applicable	Christopher Corsa, Assistant Director, Department of Public Works		It is anticipated that a formal employee training program will begin in 2022 if the COVID-19 pandemic ends
6-2 Implement MS4 property and operations maintenance (Ongoing)	In Progress	2017 through 2021 - None	The Post-Construction Stormwater Management Facility Operation & Maintenance Plan Manual was developed and provided to the Department of Public Works in 2019.	Christopher Corsa, Assistant Director, Department of Public Works		
6-3 Implement coordination with interconnected MS4s	Ongoing	The town currently coordinates with the MS4 towns of Chester and Durham, and the City of Middletown.	Met	Christopher Corsa, Assistant Director, Department of Public Works	July 01, 2017	
6-4 Develop and implement program to control other sources of pollutants to the MS4	In Progress	2017 through 2021 - None	Educate the general public about sources and water quality impacts of bacteria.	Christopher Corsa, Assistant Director, Department of Public Works and Nathan L. Jacobson &		

				Associates, Inc., Town Engineer		
6-5 Evaluate additional measures for discharges to impaired waters*	In Progress	2017 through 2021 - None	Develop additional measures if needed	Christopher Corsa, Assistant Director, Department of Public Works and Nathan L. Jacobson & Associates, Inc., Town Engineer		
6-6 Track projects that disconnect DCIA (Ongoing)	In Progress	Starting Reconstruction Projects that resulted in the disconnection of DCIA since 2012 will be determined in 2022.	The Bartman Road Reconstruction project resulted in disconnection of 0.462 acres of impervious surface disconnection. DCIA. Refer to 6.5 below.	Nathan L. Jacobson & Associates, Inc., Town Engineer		
6-7 Implement infrastructure repair/rehab program (Due 07/01/21)	Continuing	Park Road Reconstruction Project	Infrastructure repair projects consisted of paving of gravel roads and installation of a stormwater infiltration system.	Christopher Corsa, Assistant Director, Department of Public Works		The project significantly reduced sediment loads to the receiving wetlands and watercourses.
6-8 Develop and implement plan to identify/prioritize retrofit projects (Due 07/01/20)	In Progress	Retrofit projects will be prioritized based on the following:	Refer to 6.5 below.	Christopher Corsa, Assistant Director, Department of Public Works		

		High priorities will be given to outfalls which discharge directly to surface waters.		and Nathan L. Jacobson & Associates, Inc., Town Engineer		
6-9 Implement retrofit projects to disconnect 2% of DCIA (Due 07/01/22)	Started	The Bartman Road Reconstruction project resulted in disconnection of 0.462 acres of impervious surface disconnection. DCIA.	Refer to 6.5 below.	Christopher Corsa, Assistant Director, Department of Public Works		
6-10 Develop and implement street sweeping program (Ongoing)	Continuing	The Town of Haddam currently has a road sweeping program in place whereby all town roads are swept at least one time per year.	Completed	Christopher Corsa, Assistant Director, Department of Public Works		
6-11 Develop and implement catch basin cleaning program (Ongoing)	Continuing	The Town of Haddam currently has a program whereby catch basins, storm manholes, sedimentation tanks and hydrodynamic separators are vactored.	Completed Starting in 2018, catch basin cleaning will focus on the watersheds with an impervious area of greater than 12% and the Urbanized Area (UA).	Christopher Corsa, Assistant Director, Department of Public Works		
6-12 Develop and implement snow management practices (Due 07/01/18)	Ongoing	Snow Management Practices are in general conformance with the CT DEEP Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots.	Early in the Winter of 2019-2020 the town switched from a sand/salt road deicing mix to a NaCl Salt treated with Ice B'Gone at the rate of 6-8 gallons per ton obtained from DRVN Enterprises Inc. in New London.	Christopher Corsa, Assistant Director, Department of Public Works	Winter 2019-2020.	The switch to a treated salt deicing mix has resulted in a considerable reduction in road sweeping volume and catch basin cleaning volume.

			In 2020 treated salt (Champion Blue™ Salt) was obtained from Champion Salt in New Haven and Providence.			
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6.2 Describe any Pollution Prevention/Good Housekeeping Activities Planned for the Next Year, if Applicable.

DPW Employees will be encouraged to attend applicable workshops offered by the CT Technology Transfer Center and/or the Connecticut Interlocal Risk Management Agency (CIRMA) if the COVID-19 pandemic ends.

All catch basin replacements provide a minimum sump depth of 2' below the lowest invert elevation whenever possible.

Continue to utilize treated salt as a deicing mixture as the switch has resulted in significantly less road sweeping and catch basin cleaning volumes.

6.3 Pollution Prevention/ Good Housekeeping Reporting Metrics

Metrics	
Employee training provided for key staff	2017 through 2021 - None DPW Employees will be encouraged to attend applicable workshops offered by the Connecticut Training & Technical Assistance Center (T2Center) and/or Connecticut Interlocal Risk Management Agency (CIRMA) It is anticipated that DPW Employee Training will be conducted in 2022 if the COVID-19 pandemic allows.
Street sweeping	
Curb miles swept	2017 through 2020 - 188.30 (94.15 Road Miles) 2021 - 150 (75 Road Miles)
Volume (or mass) of material collected	2017 - 1,500± Cubic Yards 2018 - 1,400± to 1,600± Cubic Yards 2019 - 1,000± to 1,200± Cubic Yards 2020 - 1,000± to 1,200± Cubic Yards 2021 - 800± to 960± Cubic Yards
Catch basin cleaning	
Total catch basins in priority areas (value will be less than or equal to total catch basins town-wide)	TBD
Total catch basins town-wide	1,800±
Catch basins inspected	2017 - 0 2018 - 900±

	2019 - 900± 2020 - 900± 2021 - 600±
Catch basins cleaned	2017 - 0 2018 - 900± 2019 - 900± 2020 - 900± 2021 - 600±
Volume (or mass) of material removed from all catch basins	2017 - Not Determined 2018 - 500± Tons (370± C.Y.) 2019 - 500± Tons (370± C.Y.) 2020 - 450± Tons to 500± Tons (330± C.Y. to 370± C.Y.) 2021 - 300± Tons to 330± Tons (220± C.Y. to 245± C.Y.)
Volume removed from catch basins to impaired waters (if known)	2017 - Not Known. 2018 - Not Known 2019 - Not Known 2020 - Not Known 2021 - Not Known
Snow management	
Type(s) of deicing material used	2017 to the second or third storm event of Winter 2019-2020 the road deicing mix consisted of a 2 Parts Sand:1 Part NaCl Salt Beginning on the second or third storm event of Winter 2019-2020 the road deicing mix was changed to a treated NaCl salt.
Total amount of each deicing material applied	Winter 2017 to 2018 - 6,000± Tons, 3,400± Tons Sand and 2,600± Tons Salt Winter 2018 to 2019 - 6,000± Tons, 3,400± Tons Sand and 2,600± Tons Salt Winter 2019 to 2020 400± Tons Sand/Salt Deicing mixture 550± Tons to 600± Tons treated NaCl Salt Winter 2020 to 2021 - 1,500± Tons treated NaCl Salt Winter 2021 to 2022 - 1,500± Tons treated NaCl Salt (Projected)
Type(s) of deicing equipment used	Nine large 40,000 GVW Snow Plow/Spreaders Three F-550 Snow Plow/Spreaders Spreaders are adjustable from 100 pounds per lane mile to 900 pounds per lane mile. Typically applied at 200-400 pounds per lane mile depending on the storm. All spreaders are ground speed controlled.
Lane-miles treated (A lane-mile is a mile of roadway in a single driving lane)	188.30 (94.15 Miles)

Snow disposal location	Roadside
Staff training provided on application methods & equipment	2017 through 2021 - No DPW Employee Training
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	0 lbs or 0%
Reduction in turf area (since start of permit)	Acres
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	\$0 in 2017

6.4 Catch Basin Cleaning Program

Provide any updates or modifications to your catch basin cleaning program.

It is estimated there are approximately 1,800 catch basins in town.
 Catch basins located in sag vertical curves with curbs and approaching catch basins are cleaned first.
 2017 - No catch basins were cleaned.
 2018 - 900± catch basins were cleaned.
 2019 - 900± catch basins were cleaned.
 2020 - 900± catch basins were cleaned.
 2021 - 600± catch basins were cleaned.

Catch basins located in sag vertical curves with curbs and approaching catch basins are cleaned first.

Due to change from a sand/salt deicing mix to a treated salt deicing mix the volume of road sweeping and catch basin cleanings is anticipated to be significantly reduced which should significantly reduce sedimentation to wetlands and watercourses.

6.5 Retrofit Program

Briefly describe the Retrofit Program identification and prioritization process, the projects selected for implementation, the rationale for the selection of those projects and the total DCIA to be disconnected upon completion of each project. (Due 07/01/20)

2017 - Bartman Road Reconstruction
 Prior to the road reconstruction, no stormwater quality treatment measures were in place and runoff from the road discharged directly to a wetland/watercourse with no treatment. Subsequent to road reconstruction, a large majority of the road runoff was pretreated by a VortSentry HS48 Hydrodynamic Separator prior to discharge to a water quality swale to reduce sediment and pollutant loads from the majority of the road stormwater runoff prior to discharge to the watercourse and downgradient ponds. The impervious pavement area treated is 0.462 acre (20,130 square feet).
 2018 through 2021 - None

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection annually in future years.

(Due 07/01/22)

While the 5-year goal of 2% DCIA reduction (0.151 acre) has been achieved, stormwater retrofits will be incorporated into the designs whenever possible to reduce DCIA. Most road reconstruction projects are in rural locations so reduction of DCIA will most likely be accomplished by routing stormwater to upland discharge points to provide for overland flow and stormwater treatment before entering a wetland, watercourse or waterbody.

Part II: Impaired Waters Investigation and Monitoring

1. Impaired Waters Investigation and Monitoring Program

For details on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/monitoring.htm>. Refer to the yellow column of the Monitoring comparison chart and the Impaired waters monitoring flowchart.

1.1 Indicate which stormwater pollutant(s) of concern occur(s) in your municipality or institution.

This data is available on the MS4 map viewer: <http://s.uconn.edu/ctms4map>.

Nitrogen/ Phosphorus
Pollutant of Concern

Bacteria

Mercury

Other

The Connecticut River is the only impaired water in Haddam and the impairment is due to E coli. bacteria.

1.2 Describe program status

Discuss 1) the status of monitoring work completed, 2) a summary of the results and any notable findings, and 3) any changes to the Stormwater Management Plan based on monitoring results.

The Connecticut River is the only impaired water in the Town of Haddam and the impairment is due to E coli.bacteria.

2017 through 2021 - No impaired waters investigation and monitoring was conducted.

2022 - It is anticipated that impaired waters investigation and monitoring of all MS4 stormwater outfalls which discharge directly to the Connecticut River will be conducted in late Spring or early Summer.

2. Screening Data for Outfalls to Impaired Waterbodies (Section 6(i)(1) / page 41)

2.1 Screening Data

Complete the table below to report data for any wet weather sampling completed for MS4 outfalls that discharge directly to a stormwater impaired waterbody during the reporting period. For details on this requirement, visit www.nemo.uconn.edu/ms4/tasks/monitoring.htm. Refer to the yellow column of the Monitoring comparison chart and the Impaired waters monitoring flowchart.

Each Annual Report will add on to the previous year’s data showing a cumulative list of sampling data.

Outfall ID	Latitude & Longitude	Sample Date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up Required? *

2017 through 2021 No screening of outfalls which discharge to impaired waters was conducted. It is anticipated that outfalls discharging directly to the Connecticut River will be screened and sampled, if needed, in 2022.

2022 - Follow-up investigation required (last column) if the following pollutant thresholds are exceeded.

Pollutant of concern	Pollutant threshold
Nitrogen	Total N > 2.5 mg/l
Phosphorus	Total P > 0.3 mg/l
Bacteria (fresh waterbody)	<ul style="list-style-type: none"> E. coli > 235 col/100ml for swimming areas or 410 col/100ml for all others Total Coliform > 500 col/100ml
Bacteria (salt waterbody)	<ul style="list-style-type: none"> Fecal Coliform > 31 col/100ml for Class SA and > 260 col/100ml for Class SB Enterococci > 104 col/100ml for swimming areas or 500 col/100 for all others
Other pollutants of concern	Sample turbidity is 5 NTU > in-stream sample

2022 - Follow up investigations will be conducted, if required.

3. Follow-up Investigations (Section 6(i)(1)(D) / page 43)

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall ID	Status of drainage area investigation	Control measure to address impairment

2017 through 2021 - None Conducted

2022 - Follow up investigations will be conducted, if required.

4. Prioritized Outfall Monitoring (Section 6(i)(1)(D) / page 43)

Once outfall sampling has been completed for at least 50% of outfalls to impaired waters, identify 6 of the highest contributors of any pollutants of concern. Begin monitoring these outfalls on an annual basis by July 1, 2021.

Outfall	Latitude / Longitude	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)

2017 through 2021 - No impaired waters outfall monitoring was conducted.

2022 - All MS4 stormwater outfalls which discharge directly to the Connecticut River will be sampled.

Part III: Additional IDDE Program Data

1. Assessment and Priority Ranking of Catchments Data (Appendix B (A)(7)(c) / page 5)

Provide a list of all catchments with ranking results (DEEP basins may be used instead of manual catchment delineations).

1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank
4014-00-3-R1 53.16% Impervious	High Priority	1
4014-05-2-R4 14.14% Impervious	High Priority	2

2. Outfall and Interconnection Screening and Sampling Data (Appendix B (A)(7)(d) / page 7)

2.1 Dry Weather Screening and Sampling Data from Outfalls and Interconnections

For details on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/monitoring.htm>. Refer to the blue column of the Monitoring comparison chart and the IDDE baseline monitoring flowchart.

Provide sample data for outfalls where flow is observed. Only include Pollutant of concern data for outfalls that discharge into stormwater impaired waterbodies.

Outfall / Interconnection ID	Latitude & Longitude	Screening / sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of Concern	If required, follow-up actions taken

2017 through 2021 - No dry weather screening or sampling of interconnections were conducted.
 2022 - Dry weather screening and sampling of interconnections will be conducted where applicable.

2.2 Wet Weather Sample and Inspection Data

For details on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/monitoring.htm>. Refer to the green column of the Monitoring comparison chart and the IDDE catchment investigation flowchart.

Provide sample data for outfalls and key junction manholes of any catchment area with at least one System Vulnerability Factor.

Outfall / Interconnection ID	Latitude / Longitude	Sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of concern

2017 through 2021 - No sampling wet weather inspections or wet weather sampling was conducted.
 2022 - It is anticipated that wet weather inspections and wet weather sampling, if appropriate will be conducted.

3. Catchment Investigation Data (Appendix B (A)(7)(e) / page 9)

For details on this requirement, visit www.nemo.uconn.edu/ms4/tasks/monitoring.htm. Refer to the green column of the Monitoring comparison chart and the IDDE catchment investigation flowchart.

3.1 System Vulnerability Factor Summary

For those catchments being investigated for illicit discharges (i.e. categorized as high priority, low priority, or problem) document the presence or absence of System Vulnerability Factors (SVF). If present, report which SVF's were identified. An example is provided below.

Outfall ID	Receiving Water	System Vulnerability Factors

Where SVFs are:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages.
2. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs.
3. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints.
4. Common or twin-invert manholes serving storm and sanitary sewer alignments.
5. Common trench construction serving both storm and sanitary sewer alignments.
6. Crossings of storm and sanitary sewer alignments.
7. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system.
8. Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.
9. Areas formerly served by combined sewer systems.
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas.
11. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance).
12. History of multiple local health department or sanitarian actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance).

3.2 Key Junction Manhole Dry Weather Screening and Sampling Data

Key Junction Manhole ID	Latitude / Longitude	Screening / Sample date	Visual/ olfactory evidence of illicit discharge	Ammonia	Chlorine	Surfactants

2017 through 2021 - No junction manhole dry weather screening or dry weather sampling was conducted.

2022 - It is anticipated that junction manhole dry weather screening, and dry weather sampling, if appropriate, will be conducted.

3.3 Wet Weather Investigation Outfall Sampling Data

Outfall ID	Latitude / Longitude	Sample date	Ammonia	Chlorine	Surfactants

2017 through 2021 - No MS4 stormwater outfall wet weather investigations were conducted.

2022 - It is anticipated that outfall wet weather investigations and sampling, where appropriate, will be conducted.

3.4 Data for each illicit discharge source confirmed through the catchment investigation procedure

Discharge location	Source location	Discharge description	Method of discovery	Date of discovery	Date of elimination	Mitigation or enforcement action	Estimated volume of flow removed

Part IV: Certification

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

Chief Elected Official or Principal Executive Officer	Document Prepared by
Print Name: Robert McGarry, First Selectman	Print Name: Wade M. Thomas, CPMSM
Signature: Date: May ,2022	Signature: Date: May , 2022
Email: firstselectman@haddam.org	Email: wthomas@nlja.com